



# **Distribution Network Extension for Rural Electrification in Lao PDR**

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# **Objectives of the Power Sectors**

- 1. Development of hydropower potentials for export revenue earning**
- 2. Reliable, affordable and sustainable electricity supply to meet demand, and expand rural electrification**



# **Distribution network expansion**

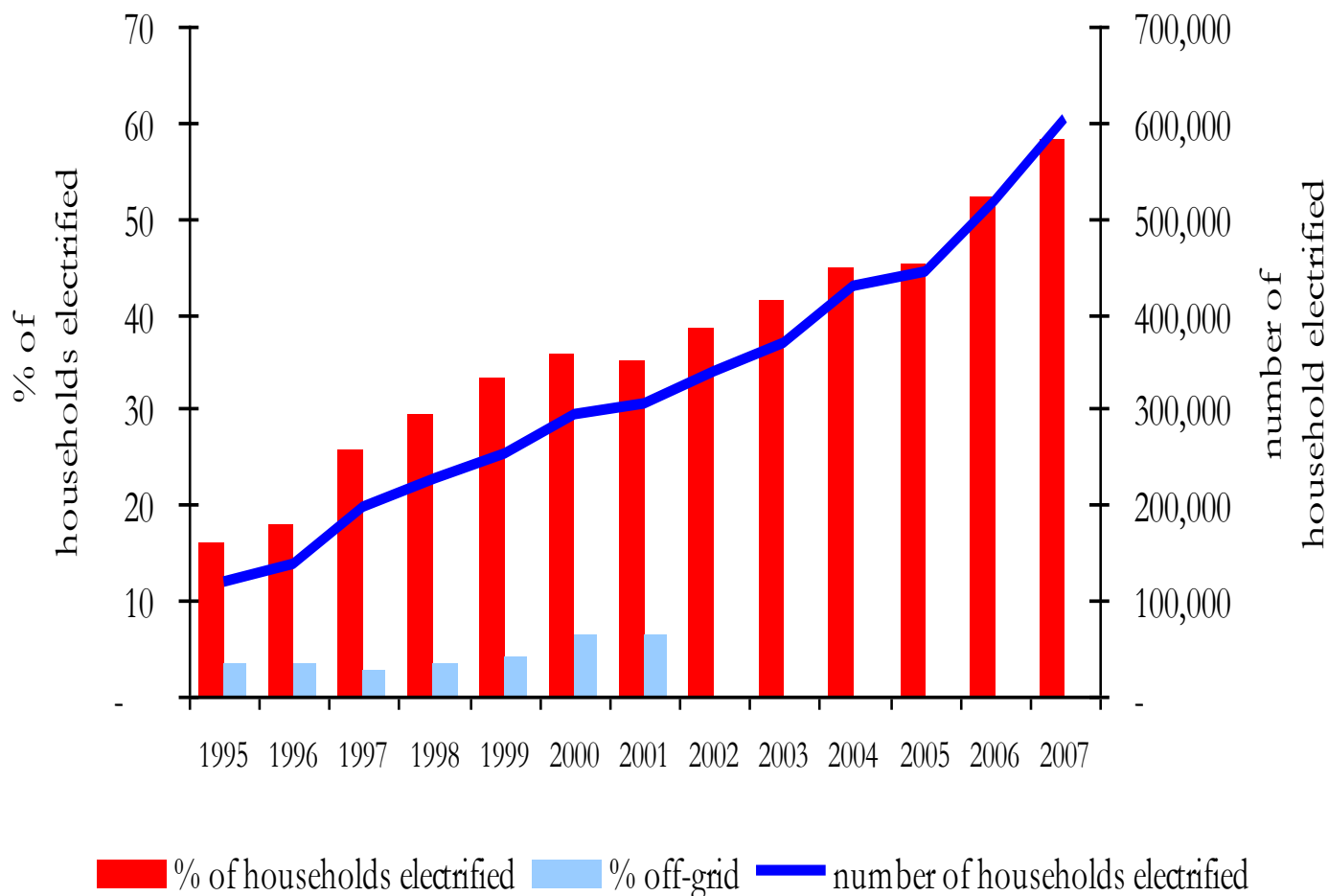
## **Targets of access to electricity**

- 70% HH by 2010
- 80% HH by 2015
- 90% HH by 2020

## **Performance**

- About 16% by 1995
- About 63% by June 2009

# Performance of Rural Electrification – from about 16% in 2005 to 63% as of June 2009





# Main challenges of distribution extension for rural electrification

1. Shortage of financial resources for extension of distribution network
  - About US\$700-\$1000/hh, \$70-100 million to add another 10%
2. Financial sustainability for operation of distribution network and delivery of electricity services to the poor
  - Cost recovery: EdL's cost of supply and operational efficiency
  - Affordability: consumer tariff
3. How to ensure inclusion of the poorest
  - Can not afford connection charges
  - monthly payment for tariff
  - About 30% can not afford connection to distribution network



# **WB Support to distribution network development**

## **1. Investment in distribution network extension in partnership with other donors**

- IDA, GEF, IFC, NORAD, AusAID, ect.
- 4 continuous rural electrification projects for grid-extension since early 1990s, in the seven southern provinces, covering about 150,000 households
- Construction of Load Dispatch Centers: under system configuration/design stage
- 1 new project for distribution network expansion to be started in early 2010

## **2. Policy / institutional support to improve sector financial sustainability**

- Tariff reform: profitable and affordable (USc 3/kWh for first 25 kWh; average USc6.5/kWh)
- Operational efficiency: above 20% losses in 2005 to 13% as of June 2009
- Demand-side management and energy efficiency
- Reduction of account receivable



# **WB Support to distribution network development**

## **3. Promote private sector participation in off-grid generation and distribution development**

- TA for set-up of Rural Electrification Fund to provide subsidies (completed)
- TA for upstream project preparation – feasibility study (completed)
- TA for capacity building of SMEs (completed)
- TA for productive use of electricity (preparation)
- Facilitate local commercial banks to lend – Guarantee, RSF (preparation)
- IFC advisory services for specific transactions (preparation)

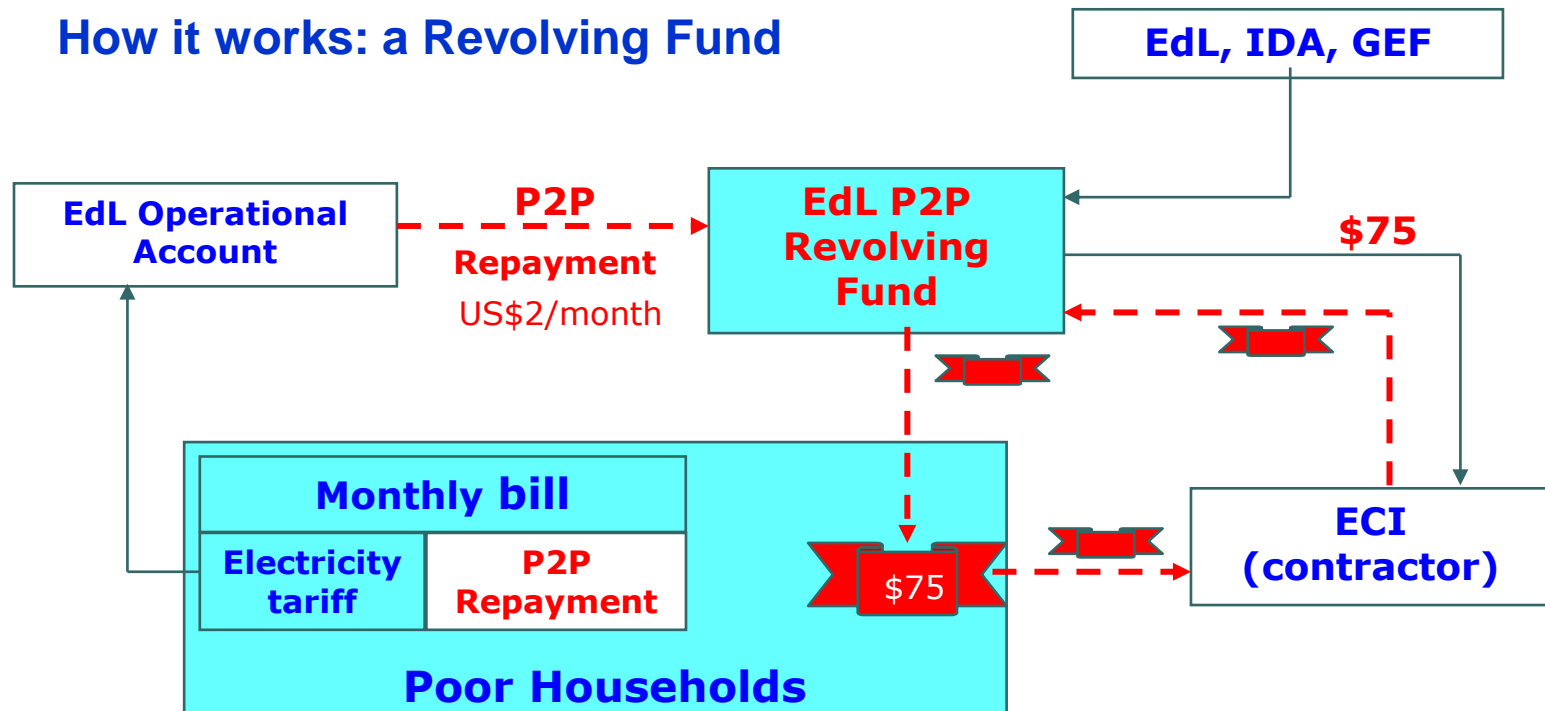
## **4. Technical capacity building**

- Technical capacity in distribution network planning, design, project preparation, implementation, safeguard management.

# Power to the Poor

## 5. Targeting the poorest – “Power to the Poor” program

### How it works: a Revolving Fund







# WB Support to distribution network development

## Early results

- 537 households in the 20 villages are connected through P2P credit support
- Connection rate in January 2009: achieved **95%** in the pilot villages
- Connection rate among female-headed households: **63% before** and **90% after**

# Power to the Poor



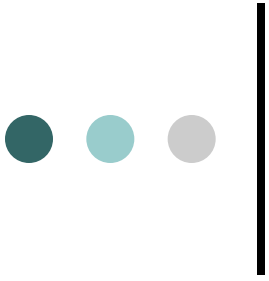
*"Before, I used to share electricity with my neighbors, but now I have my own. I am very happy and it will support me to do work at night. At the same time, my children will be able to do their homework in the evening. I also plan to buy a water pump so that I can bring water from the river which will reduce time and energy from having to carry bucket of water home."*

# Power to the Poor

## Next steps:

- Roll-out to **1,800** more connections in early 2010, in partnership with AusAID
- Monitoring and evaluation
- Roll-out countrywide





**Thank you !**